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ABSTRACT

Intended to inform the educational community of various resources for teaching thinking skills, this publication lists and describes 31 products, publications, and services available from the nine regional educational laboratories funded by the Office of Educational Research and Improvement, United States Department of Education. (SR)

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This catalog of products, publications, and services available on the subject of *Higher Order Thinking Skills* has been compiled by the Cross-Laboratory Committee on Higher Order Thinking Skills of the nine regional laboratories funded by the Office of Educational Research and Improvement (OERI), U.S. Department of Education.

The catalog will be updated annually and is designed to inform the educational community of the various resources for teaching thinking available from the several regional laboratories.

To obtain specific items listed, please follow the directions for ordering materials indicated by the particular laboratory.

The Cross-Laboratory Committee on Higher Order Thinking Skills

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Jane Hange, *Appalachia Educational Laboratory*

Lorna Idol, *Southwest Educational Development Laboratory*

Beau Fly Jones, *North Central Regional Educational Laboratory*

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Southeastern Educational Improvement Laboratory
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HIGHER ORDER THINKING SKILLS

A CATALOG OF Products, Publications, and Services

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Ideas on Teaching Problem Solving in Intermediate Mathematics

Gary Tsuruda and Andrea A. Lash
1985, 17 pages #CU-85-01.....$3.00

In problem solving, solutions consist of more than just the answer; the methods used to arrive at the answer are equally important. This essay includes examples of non-routine problems that can expand the mathematics curriculum and a bibliography of resources for problem-solving instruction.

Arithmetic Word Problems: Activities to Engage Students in Problem Analysis

Andrea A. Lash
1985, 55 pages #CU-85-02.....$4.00

This resource booklet is designed to help teachers guide students in work with word problems, the type of problems found routinely in arithmetic textbooks. The major portion of the booklet is a collection of materials for classroom use including exercises and activities that involve students in problem analysis, and over 200 word problems.

A Look at Math Teachers and Problem Solving

Robert B. Burns and Andrea A. Lash
1985, 8 pages #CU-85-03.....$3.00

Math teachers are currently under considerable pressure to incorporate instruction in problem-solving skills in their curricula. This report of a study of problem-solving instruction by nine public school mathematics teachers indicates a strong need for more understanding of the nature of problem-solving instruction.

A Comparison of Activity Structures During Basic Skills and Problem-Solving Instruction in 7th-Grade Mathematics

Robert B. Burns and Andrea A. Lash
1985, 73 pages #CU-85-05.....$4.00

The basic research questions addressed in this study are "What does problem-solving instruction look like and is it different from a teacher's regular basic skills instruction?" The authors examine similarities and differences in the organization of instruction during basic skills and problem-solving instruction, and draw implications for future research on mathematics teaching.

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Far West Laboratory

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An Assessment of Mathematical Problem-Solving Skills

Andrea A. Lash

1985, 41 pages, #CU-95-06.....$4.00

The purpose of this report is to document the development and evaluation of a group-administered test of mathematical problem-solving assessment. The research identifies important decision points in the development of the group-administered test and summarizes statistical analyses of data collected with the test. The information could be used by teachers to help identify specific difficulties of individual students.

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MID-CONTINENT REGIONAL EDUCATIONAL LABORATORY

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Tactics for Thinking (1985).
Robert Marzano and Daisy Arredondo

Tactics for Thinking is a teacher-training program designed to help students learn to take control of their own learning. Three kinds of thinking skills are included in the program: Learning to Learn skills, Content Thinking skills, and Reasoning skills. Tactics provides districts with 22 units for training teachers of all grade levels and subject areas. Materials in the Tactics program that are available from the laboratory include:

Thinking Skills Training Manual - includes all overheads used in training plus all materials needed to train teachers.....$35.00

Thinking Skills Teacher's Manual - the 22 thinking skills and tactics for teachers learning to use the program in their classrooms.....$12.00

Thinking Skills: A Conceptual Framework - the theory behind the Tactics program plus bibliography.....$6.95

Basic Vocabulary and Concept Development - the 61 instructional clusters containing the 7,000 most common K-6 words.....$20.00

Shipping and handling costs will be added.

Tactics for Thinking Institute - a three-day Institute presented at the laboratory in Denver or arranged for individual schools or school districts by appointment.

Denver Institution participation.....$300.00

To order materials or for additional information, please contact:

McREL TACTICS FOR THINKING
12500 E. Iliff Avenue
Suite 201
Aurora, CO 80014

The Regional Laboratory
for Educational Improvement of the Northeast and Islands
290 South Main Street, Andover, Massachusetts 01810, 617/470-0098

Teaching for Thinking

Laboratory Staff

A resource bibliography and list of programs and materials related to the teaching of thinking.

Available Fall, 1987. Cost to be determined.

For information, contact:

The Network
290 South Main Street
Andover, MA 01810
(617) 470-0098

"Reading and Thinking" (1985).
Beau Fly Jones, in A. Costa, (Ed.), Developing Minds (pp. 108-113).

To order a single copy, send a letter to Cheryl May, North Central Regional Educational Laboratory, 295 Emroy Street, Elmhurst, IL 60126. To order more than one copy, write to ASCD, 125 N. West Street, Alexandria, VA 22314-2798.

Jones, B. F., & Ransom, K. (Producers). (1986). Teaching reading as thinking (a video tape). Alexandria, VA: Association for Supervision and Curriculum Development, #HST-602.

This videotape presents a model of reading that conceptualizes teaching reading as thinking before, during, and after reading. The model is demonstrated by an expert teacher teaching a science lesson to middle school students.

Palincsar, A. S., Ogle, D. S., Jones, B. F., & Carr, E. G. (1986). Teaching reading as thinking (Facilitator's Manual). Alexandria, VA: Association for Supervision and Curriculum Development, #HST-701.

This manual has three functions. First, it presents the model for the concept, teaching reading as thinking, in a print format to accompany the videotape. Second, it provides the materials (objectives, handouts, and transparencies) that would be needed for workshops to teach teachers how to apply the model to classroom instruction. Third, it describes specific instructional strategies developed by each of the authors that reflect the model.

To order, send $225 to ASCD, 125 N. West Street, Alexandria, VA 22314-2798, if you are an ASCD member, and $260 if you are not a member.

Jones, B. F. (1986). "Quality and equality through cognitive instruction," Educational Leadership, 43, 5-11. Beau Fly Jones, 1986, April.

Part 1 of this paper argues that the reform movement created serious problems for low achieving students, including low achieving teachers, who may be unable to meet increased demands for "rigor" in testing, entrance requirements, and graduation requirements. These problems exist in part because there is inadequate attention to quality of instruction. Part 2 defines the characteristics of instruction emerging from cognitive psychology and expert teaching. It is argued that if schools implemented cognitive instruction, there would be both improved quality of instruction and equity because much of this research facilitates learning for low achieving

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students. This paper coined the term "cognitive instruction" and has subsequently been reproduced in Education Digest (1986) and Annals of Educational Psychology, (1986).

To order a single copy, send a letter to Cheryl May, North Central Regional Educational Laboratory, 295 Emroy Street, Elmhurst, IL 60126. To order more than one copy, write to ASCD, 125 N. West Street, Alexandria, VA 22314-2798.

Beau Fly Jones, Margaret Tinzmann, Lawrence B. Friedman, & Beverly Walker. (1987). Teaching thinking skills in English/language arts. Washington, DC: National Education Association, 104 pp., #HST-706.

This book is divided into two parts. Part 1 extends the model for teaching reading as thinking to teaching the language arts as thinking. Chapter 1 relates instruction to learning. Chapter 2 discusses the importance of organizing knowledge and graphic representations of text. Chapter 3 presents the concept of strategic teaching, the notion that the teacher has a repertoire of instructional strategies that may be used in different contexts to facilitate thinking before focused learning, during focused learning, and after focused learning. Part 2 provides six examples of stratecig teaching: three examples in content contexts and three examples of strategy/skills instruction.

To order, send $9.95 to the NEA Professional Library, P. O. Box 509, West Haven, CT 06516. Refer to stock number 0679-8-00.

Jones, B. F., Palincsar, A. S., Ogle, D. S., & Carr, E. G. (in press). Strategic teaching and learning: Cognitive instruction in the content areas. Alexandria, VA: Association for Supervision and Curriculum Development, 167 pp., #HST-705. $10.00 order from ASCD, see above.

This book extends the model developed in the previous book to teaching thinking in the content areas. Part 1 provides a model for making five sets of decisions about instruction: aligning the variables of instruction, relating content and instruction to learning, developing instructional strategies, relating assessment to learning and instruction, and considering contextual constraints. Part 2 contains chapters from content area experts (Anderson in science, Alverman in social studies, Linquist in math, and Beach in English/Literature) applying the model.

For information, contact:

Dr. Beau Fly Jones or Dr. Lawrence B. Friedman
North Central Regional Educational Laboratory
295 Emroy Street
Elmhurst, IL 60126
(312) 941-7677

Northwest Regional Educational Laboratory

101 S.W. Main Street, Suite 500 • Portland, Oregon 97204

Measuring Thinking Skills in the Classroom

Richard J. Stiggins, Evelyn Rubel, & Edys Quellmalz
1986, 32 pages
Produced in cooperation with the NEA Mastery in Learning Project

This guide has been designed to provide teachers with simple but very powerful tools to use in measuring critical thinking skills on a day-to-day basis in the classroom. It provides: (1) a simple, usable set of thinking skills definitions; (2) brief explanations of three common forms of classroom assessment; and (3) a planning strategy for crossing levels of thinking skills with forms of classroom assessment in such a way as to use assessment to promote student skill in higher-level cognitive operations. In addition, the guide offers a series of very practical guidelines for making assessment planning strategies work effectively in the classroom.

Available from:

National Education Association
Academic Building
P. O. Box 509
West Haven, CT 06516

Price: $6.95. Please prepay all orders. Make checks payable to NEA.

Assessing Higher Order Thinking Skills: A Consumer's Guide

Judith A. Arter and Jennifer Salmon
November, 1986, 52 pages

This guide is intended to assist school people in finding out how well their students think. The guide also helps school people improve students' thinking ability. Practitioners are provided an overview of the current state-of-the-art in assessing higher order thinking skills (HOTS), as well as information necessary to become thoughtful consumers of HOTS tests. The guide includes: (1) a brief discussion of the issues in assessing HOTS; (2) reviews of over 40 tests and other assessment devices; (3) guidelines for selecting HOTS tests; and (4) a listing of other resources for those interested in pursuing the topic further.

Price: $9.75 (including postage and handling). Make check payable to Northwest Regional Educational Laboratory.

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Northwest Regional Educational Laboratory

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The Test Center

Resources for Assessment and Evaluation

The Test Center is a collection of assessment tools (both student outcomes and process measures), testing resources, item banks, and curriculum scope and sequences. There are over 800 titles. In addition, the Test Center houses sample computer programs for item banking operations using IBM and Apple computers. Assessment guides exist for higher order thinking skills, school and classroom climate, and writing skills. Test Center staff will loan specimen sets of tests on a specific topic as well as bibliographies and reviewing information. Materials are loaned to educators in Alaska, Hawaii, Idaho, Montana, Oregon, Washington, and the Pacific Islands as well as to Chapter 1 programs in Arizona, California, Colorado, New Mexico, Nevada, Utah, and Wyoming.

Measuring Higher Order Thinking Skills in the Classroom (Two-hour workshop)

The purpose of the workshop is to provide teachers with a framework for designing, developing, and using assessments of thinking skills on a day-to-day basis in their own measurement of student achievement. Two commonly used taxonomies of higher order thinking skills are crossed with three measurement techniques (oral questioning, paper and pencil tests, and performance-based assessments) to yield an Assessment Planning Chart. Teachers learn simple strategies for completing these charts in such a way as to assure measurement of key thinking skills. In addition, they learn how to integrate such assessments into the instructional process.

For more information on services and products available from NWREL, contact:

Marketing Office
Northwest Regional Educational Laboratory
101 S.W. Main Street, Suite 500
Portland, OR 97204
(503) 275-9500

RESEARCH FOR BETTER SCHOOLS, INC.
444 North Third Street
Philadelphia, PA 19123

A Catalog of Programs for Teaching Thinking
Janice Kruse and Barbara Z. Presseisen
1987, 37 pages #TS01.....$8.95

This resource booklet provides concise summaries of most of the major commercial published programs that teach thinking. Each program is described in terms of its major goal, intended audience, assumptions, process/materials, time and developer. Addresses provided at the end of each description can be used to obtain further information from the publication source.

Critical Thinking and Thinking Skills: State of the Art Definitions and Practice in Public Schools
Barbara Z. Presseisen
1986, 57 pages #TS02.....$14.50

This historical analysis of the current interest in critical thinking development and teaching thinking skills was originally presented at the American Educational Research Association. The paper examines why there is renewed interest in critical thinking, theoretical advances in understanding intelligence and instruction, and the various ways teaching thinking have been received by public school educators. Issues for the future are discussed in terms of questions to be answered and research issues needing additional attention.

How Can We Teach Intelligence?
Robert J. Sternberg
1983, 30 pages #TS03.....$7.50

This study links the teaching of thinking to research on the nature and testing of intelligence. Processes of thinking are seen as different from the view of intelligence that led to I.Q. tests. Programs that teach thinking such as Instrumental Enrichment, Philosophy for Children, and the Chicago Mastery Learning Reading Program are discussed. Standards for thinking program selection are presented.

Thinking Skills: Meanings, Models, and Materials
Barbara Z. Presseisen
1984, 21 pages #TS04.....$5.50

An educator's resource for clarifying what thinking is, what kinds of experiences or programs advance it, and what implications such efforts have for school personnel and policies. A glossary of working definitions is provided, as well as practical models to explain the working relationships among different levels and different kinds of thought processes.

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Research for Better Schools

(Continued)

Thinking Skills Throughout the Curriculum: A Conceptual Design
Barbara Z. Presseisen
1987, 109 pages #TS05.....$8.95

A publication of Pi Lambda Theta, the national honor and professional association in education, which focuses on teaching thinking in any content area by identifying skills and processes of cognition, metacognition, and epistemic cognition. Concerns of classroom application are discussed and selected resource materials are suggested. Resources for practitioner use, such as a resource checklist, a working glossary, and a current bibliography are also provided.

Thinking Skills: Research and Practice
Barbara Z. Presseisen
1986, 32 pages #TS06.....$2.50

A publication of the National Education Association's series, "What Research Says to the Teacher," which summarizes the current movement on teaching thinking. Topics included are an historical overview of the movement, a discussion of the various kinds of thinking now being researched, the different influences on thinking and learning that have recently emerged, and the most important issues to be raised in teaching thinking. An extensive bibliography is also provided.

The Development of Adolescent Thinking: Some Views for Effective Schools
Barbara Z. Presseisen (Editor)
1983, 45 pages #TS07.....$10.95

The views of five prominent educators, Joseph Adelson, David Elkind, Allan Glatthorn, Ione D. Vargus, and Frederick J. McDonald, are presented in this study of adolescent thinking. Common threads are identified in their various research backgrounds: political socialization, child development, curriculum theory, social work, and teacher education. Implications for the improvement of schools as dynamic institutions are presented.

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SEDL
SOUTHWEST EDUCATIONAL DEVELOPMENT LABORATORY
211 East Seventh Street Austin, Texas 78701 512/476-6861

Idol, L. (in press). Johnny can't read: Does the fault lie with the book, the teacher, or Johnny? Remedial and Special Education, 9(1).

This paper describes an empirically-based model depicting how three classes of variables are thought to influence reading, particularly reading comprehension and the thinking process. The classes include text-related, teacher-related, and student-related variables. Discussion of the relative ease with which each of these three classes of variables may be controlled is included, with implications drawn for teaching poor readers.
Order No. 178701.....$5.50

Idol, L., West, J. F., & Lloyd, S. (in press). Developing and implementing specialized reading programs: A collaborative approach involving classroom, remedial, and special education teachers. Remedial and Special Education, 9(2).

This paper discusses how the collaborative relationships of classroom, remedial, and special education teachers might be improved to develop specialized reading programs for low achieving and special education students. Examples of collaboration coupled with a decision-making framework (Levels of Intensity of Intervention) for determining the content of instruction for students with special needs is provided. Emphasis is placed on administrative funding considerations and on teacher preparation needs.
Order No. 17802.....$3.25

Idol, L., & Croll, V. (1987). The effects of story mapping on poor comprehension. Learning Disability Quarterly, 10(3), 214-230.

This paper describes an empirically tested, story mapping technique for improving reading comprehension of elementary students with learning disabilities and severe reading comprehension problems. The story map is a concrete framework for assisting readers to organize and remember key information gleaned from narrative stories that results in maintained and generalized learning.
Order No. 17803.....$2.00

Idol, L. (1987). Group story mapping: A comprehensive strategy for both skilled and unskilled readers. Journal of Learning Disabilities, 20(4), 196-205.

This paper extends the study of story mapping to improve reading comprehension. The map was used successfully with both low achieving and learning disabled poor comprehenders, as well as with normally achieving third- and fourth-grade students. The results of using story mapping include: maintained and generalized learning occurred, and improved reading comprehension, listening comprehension, and journal writing.
Order No. 17804.....$1.25

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Southwest Educational Development Laboratory

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Idol, L. (1987). A critical thinking map to improve content area comprehension of poor readers. Remedial and Special Education, 8(4), 28-40.

This study describes a mapping technique for aiding poor comprehenders in thinking critically about expository text. Map components include: main idea of the passage, major points that support the main idea, other viewpoints, reader's conclusion, and relevance to a contemporary situation. When tested empirically with high school special education and remedial reading students, the map brought about maintained content learning and generalization to some types of nonverbal and verbal thinking tasks.
Order No. 17805.....$1.50

Idol-Maestas, L. (1985). Getting ready to read: Guided probing for poor comprehenders. Learning Disability Quarterly, 8, 243-254.

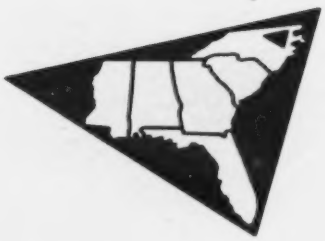
This paper describes an advance organizer, TELLS Fact or Fiction, that was used to improve reading comprehension and organizational thinking skills of learning disabled elementary school students. The teacher-assisted technique requires readers to conduct a general perusal of narrative stories prior to reading. In research reported here, comprehension improvement was immediate, but maintained and generalized improvement was not substantial due to probable dependence on teacher assistance. These results help to build a case for development of thinking strategies that result in independent and maintained reading improvement.
Order No. 17806.....$1.50

Payment must accompany all orders of $25 or less. Purchase orders accepted only from educational institutions. Make checks payable to Southwestern Educational Development Laboratory. Include $1.50 for postage/handling.

For Information Contact:

Dr. Lorna Idol or Dave Wilson
Southwestern Educational Development Laboratory
211 East Seventh Street
Austin, TX 78701

(512) 476-6861



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The Southeastern Educational Improvement Laboratory is "client-owned." That is, its agenda is set by those it serves: educators and other individuals and groups supporting education in the six service states. A 24-member board of directors includes representatives of teachers, school administrators, state and local boards of education, parents, business and industry, professional organizations, higher education, state legislators, as well as the six chief state school officers. Regional and state advisory networks contribute to the decision-making and service delivery process.

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